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|--|-------------|-----------------------|-----------------------------------|------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO.               | CONFIRMATION NO. |
| 10/642,367   | 08/15/2003  | Richard H. Schlosberg | 2001B052A/2                       | 2531             |
| 23455 7590 03/21/2007<br>EXXONMOBIL CHEMICAL COMPANY<br>5200 BAYWAY DRIVE<br>P.O. BOX 2149<br>BAYTOWN, TX 77522-2149 |             |                       | EXAMINER<br>STOCKTON, LAURA LYNNE |                  |
|  |             |                       | ART UNIT                          | PAPER NUMBER     |
|  |             |                       | 1626                              |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE   |             | MAIL DATE             | DELIVERY MODE                     |                  |
| 3 MONTHS   |             | 03/21/2007            | PAPER                             |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                          |                     |  |
|------------------------------|--------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>   | <b>Applicant(s)</b> |  |
|                              | 10/642,367               | SCHLOSBERG ET AL.   |  |
|                              | <b>Examiner</b>          | <b>Art Unit</b>     |  |
|                              | Laura L. Stockton, Ph.D. | 1626                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-15, 17-26, 28-39, 41-46 and 49-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-15, 17-26, 28-39, 41-46 and 49-57 is/are rejected.
- 7) ☒ Claim(s) 58 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

Claims 1, 2, 4-15, 17-26, 28-39, 41-46 and 49-58 are pending in the application.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 27, 2006 has been entered.

***Election/Restrictions***

Applicant's election with traverse of Group I, directed to a process of making (claims 1-46), in the

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reply filed on January 12, 2006 was acknowledged in a previous Office Action. The requirement was deemed proper and therefore made FINAL in a previous Office Action.

Claims 47 and 48 were withdrawn (now cancelled) from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention. Applicant timely traversed the restriction (election) requirement in the reply filed on January 12, 2006.

***Terminal Disclaimer***

As stated in the Advisory Action dated December 22, 2006, the terminal disclaimers filed on December 4, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Pat. 6,774,256 or any patent resulting from Application No.

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10/641,596 have been reviewed and are accepted. The terminal disclaimers have been recorded.

Rejections made in the previous Office Action that do not appear below have been overcome. Therefore, arguments pertaining to these rejections will not be addressed.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 2, 4-15, 17-26, 28-39, 41-46 and 49-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. {U.S. Pat. 6,407,279} in view of the combination of teachings in Emmons et al. {U.S. Pat. 3,535,341} and McClellan {U.S. Pat. 2,873,282}.

*Determination of the scope and content of the prior art (MPEP*

*§2141.01).*

Applicant claims a process of making dialkyl carbonate and a diol from alkylene oxide, carbon dioxide and an aliphatic monohydric alcohol comprising (a) reacting an alkylene oxide with carbon dioxide in the presence of a carbonation catalyst selected from carbonates and bicarbonates of quaternary ammonium bases to provide a crude cyclic carbonate and (b) reacting said cyclic carbonate with an aliphatic monohydric alcohol in the presence of a catalyst. Buchanan et al. (see entire reference and especially columns 1, 3-5, 7 and 9) teach a process of making

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dialkyl carbonate and a diol from alkylene oxide, carbon dioxide and an aliphatic monohydric alcohol.

*Ascertainment of the difference between the prior art and the claims*

*(MPEP §2141.02)*

The difference between the process of Buchanan et al. and the process instantly claimed is that Buchanan et al. generically describe the instant quaternary ammonium catalysts. However, Emmons et al. (column 1, lines 35-53) and McClellan (columns 1 and 2) each teach that it is known to use quaternary ammonium compounds as catalysts in processes of making alkylene carbonates (Applicant's cyclic carbonate produced in step a).

*Finding of prima facie obviousness--rational and motivation (MPEP*

*§2142-2413)*

One skilled in the art would have been motivated to utilize the processes taught by the above prior art to arrive at the instant claimed process with the expectation of obtaining a dialkyl carbonate and a

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diol. Therefore, the instant claimed process would have been suggested to one skilled in the art.

### ***Response to Arguments***

Applicant's arguments filed December 22, 2006 have been fully considered but they are not persuasive. Applicant argues that neither Buchanan et al., Emmons nor McClellan suggest using the same halogen free carbonation catalyst as both the carbonation catalyst and as the transesterification catalyst. In response, Buchanan et al. teach the use of a heterogeneous catalyst in the carbonation reaction (Applicant's step a) and in the transesterification reaction (Applicant's step b). See column 5, lines 7-11; column 8, lines 65-67; and column 9, lines 1-3.

Applicant argues that there is no specific motivation to replace the carbonation catalyst in step (a) of Buchanan et al. with a carbonation catalyst from another piece of art {i.e., Emmons et al. and



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McClellan}. In response, the carbonation catalyst of Buchanan et al. is not being "replaced" as Applicant has argued. Buchanan et al. teach that heterogeneous catalyst such as quaternary ammonium functional group containing can be used as the catalyst in the carbonation reaction (column 5, lines 7-11). The Emmons et al. and McClellan references give specific quaternary ammonium catalysts that are used in the carbonation reaction. Therefore, Applicant's argument is not persuasive.

Applicant argues that Buchanan et al. fail to disclose or suggest Applicant's recited catalyst of step (b). In response, Buchanan et al. state quaternary ammonium anion exchange resins, containing some carbonate or bicarbonate anions are particularly contemplated as effective transesterification catalysts (column 8, lines 65-67; and column 9, lines 1-3). For all the reasons given above, the rejection is deemed proper and therefore, the rejection is maintained.

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***Allowable Subject Matter***

Claim 58 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

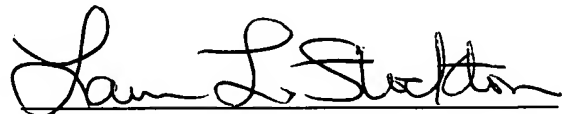
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura L. Stockton whose telephone number is (571) 272-0710. The examiner can normally be reached on Monday-Friday from 6:15 am to 2:45 pm. If the examiner is out of the Office, the examiner's supervisor, Joseph McKane, can be reached on (571) 272-0699.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the

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automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

The Official fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

A handwritten signature in black ink, appearing to read "Laura L. Stockton". The signature is fluid and cursive, with the first name "Laura" and last name "Stockton" clearly distinguishable.

Laura L. Stockton, Ph.D.

Patent Examiner

Art Unit 1626, Group 1620

Technology Center 1600

March 16, 2007